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               AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005

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=> s sirna or short rna molecule
L1 6027 SIRNA OR SHORT RNA MOLECULE

=> s l1 and silenc?
L2 2217 L1 AND SILENC?

=> s l2 and (transform? or transgenic)
L3 302 L2 AND (TRANSFORM? OR TRANSGENIC)

=> s l3 and plant?
L4 85 L3 AND PLANT?

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5 65 DUP REM L4 (20 DUPLICATES REMOVED)

=> d 1-10 ti

L5 ANSWER 1 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Designing of the optimized structures of double-stranded RNAs for effective cellular post-transcriptional interference

L5 ANSWER 2 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI RNA **silencing** in **plants** by the transcription of **siRNA** from RNA polymerase III promoters

L5 ANSWER 3 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Inhibition of insect gene expression in **plants** by using dsRNA or **siRNA** and uses for producing insect resistant **plants**

L5 ANSWER 4 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Expression of **SiRNA** in tobacco for **plants** resistant to cytoplasm-feeding parasites

L5 ANSWER 5 OF 65 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Small interfering RNAs that trigger posttranscriptional gene **silencing** are not required for the histone H3 Lys9 methylation necessary for **transgenic** tandem repeat stabilization in Neurospora crassa.

L5 ANSWER 6 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Large-scale chromatin decondensation induced in a developmentally activated transgene locus

L5 ANSWER 7 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Accumulation of the long class of **siRNA** is associated with resistance to Plum pox virus in a **transgenic** woody perennial plum tree

L5 ANSWER 8 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 1
TI Quantitative analysis of **siRNA**-mediated GFP **silencing** in **transgenic** pine cells.

L5 ANSWER 9 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Different effects on ACC oxidase gene **silencing** triggered by RNA interference in **transgenic** tomato

L5 ANSWER 10 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Agro-infiltration: a versatile tool for RNAi studies in **plants**

=> d 2 so

L5 ANSWER 2 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO PCT Int. Appl., 112 pp.
CODEN: PIXXD2

=> d 2 pi

L5 ANSWER 2 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005054439	A2	20050616	WO 2004-US39942	20041201

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2005166289	A1	20050728	US 2004-863	20041201

=> d 3 ab

L5 ANSWER 3 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB The current invention provides methods to **silence** insect genes by using unpackaged dsRNA or **siRNA**, in one embodiment such dsRNA or **siRNA** is present in **plant** vascular tissue, preferably phloem, more particularly phloem sap, and the insect is a **plant** sap-sucking insect. Also provided are DNA sequences which when transcribed yield a double-stranded RNA mol. capable of reducing the expression of an essential gene of a **plant** sap-sucking insect, methods of using such DNA sequences and **plants** or **plant** cells **transformed** with such DNA sequences. Also provided is the use of cationic oligopeptides that facilitate the entry of dsRNA or **siRNA** mols. in insect cells, such as **plant** sap-sucking insect cells.

=> d 3 pi

L5 ANSWER 3 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005049841	A1	20050602	WO 2004-EP13049	20041117
WO 2005049841	B1	20050909		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO,

SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

=> d 4 ab

L5 ANSWER 4 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB The present invention relates to **transgenic plants** resistant to parasites that their normal life cycle includes feeding on the **plant** cytoplasm, including insects, nematodes and fungi, wherein the **plants** are engineered to produce small interfering RNAs (siRNAs) capable of **silencing** a parasite specific gene. The SiRNAs targeted to Bemisia tabaci gene for voltage-gated sodium channel, eIF5A gene, Meloidogyne javanica col-5 gene. Particularly the parasite gene is a stage-specific gene, more particularly a gene involved in essential, early developmental stages of the parasite in or on the **plant**.

=> d 4 pi

L5 ANSWER 4 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005019408	A2	20050303	WO 2004-IL766	20040822

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

=> d 6 ab

L5 ANSWER 6 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB The high mol. weight (HMW) glutenin-encoding genes in wheat are developmentally activated in the endosperm at about 8 days after anthesis. The authors have investigated the phys. changes that occur in these genes in two **transgenic** lines containing about 20 and 50 copies each of the HMW glutenin genes together with their promoters. Using fluorescence in-situ hybridization (FISH) and confocal imaging, the authors demonstrate that, in non-expressing tissue, each transgene locus consists of one or two highly condensed sites, which decondense into many foci upon activation of transcription in endosperm nuclei. Initiation of transcription can precede decondensation but not vice versa. In one of the lines, cytoplasmic transcript levels are high after onset of transcription but disappear by 14 days after anthesis, whereas small interfering RNAs, which indicate post-transcriptional gene **silencing** (PTGS), are detected at this stage. However, the transcript levels remain high at the transcription sites, most of the transgene copies are transcriptionally active and transcriptional activity in the nucleus ceases only with cell death at the end of endosperm development.

=> d 5 ab

L5 ANSWER 5 OF 65 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

AB In Neurospora crassa, the introduction of a transgene can lead to small interfering RNA (**siRNA**)-mediated posttranscriptional gene **silencing** (PTGS) of homologous genes. siRNAs can also guide locus-specific methylation of Lys9 of histone H3 (Lys9H3) in Schizosaccharomyces pombe. Here we tested the hypothesis that transgenically derived siRNAs may contemporaneously both activate the PTGS mechanism and induce chromatin modifications at the transgene and the homologous endogenous gene. We carried out chromatin immunoprecipitation using a previously characterized albino-1 (al-1) **silenced** strain but detected no alterations in the pattern of histone modifications at the endogenous al-1 locus, suggesting that siRNAs produced from the **transgenic** locus do not trigger modifications in trans of those histones tested. Instead, we found that the **transgenic** locus was hypermethylated at Lys9H3 in our **silenced** strain and remained hypermethylated in the quelling defective mutants (qde), further demonstrating that the PTGS machinery is dispensable for Lys9H3 methylation. However, we found that a mutant in the histone Lys9H3 methyltransferase dim-5 was unable to maintain PTGS, with **transgenic** copies being rapidly lost, resulting in reversion of the **silenced** phenotype. These results indicate that the defect in PTGS of the Delta dim-5 strain is due to the inability to maintain the transgene in tandem, suggesting a role for DIM-5 in stabilizing such repeated sequences. We conclude that in Neurospora, siRNAs produced from the **transgenic** locus are used in the RNA-induced **silencing** complex-mediated PTGS pathway and do not communicate with an RNAi-induced initiation of transcriptional gene **silencing** complex to effect chromatin-based **silencing**.

=> d 5 so

L5 ANSWER 5 OF 65 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
SO Molecular and Cellular Biology, (MAY 2005) Vol. 25, No. 9, pp. 3793-3801.
CODEN: MCEBD4. ISSN: 0270-7306.

=> d 8 ab

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=> d 8 so

L5 ANSWER 8 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 1
SO Plant science, 2005 Mar. Vol. 168, issue 3 p. 741-746
ISSN: 0168-9452

=> d 9 ab

L5 ANSWER 9 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB RNA interference (RNAi) is a potent trigger for specific gene **silencing** of expression in a number of organisms and is an efficient way of shutting down gene expression. 1-Aminocyclopropane-1-carboxylate (ACC) oxidase catalyzes the oxidation of ACC to ethylene, a **plant** growth regulator that plays an important role in the tomato ripening process. In this research, to produce double-stranded (ds)RNA of tomato ACC oxidase, we linked the sense and antisense configurations of DNA

fragments with 1,002-bp or 7-nt artificially synthesized fragments, resp., and then placed these under the control of a modified cauliflower mosaic virus 35S promoter. The dsRNA expression unit was successfully introduced into tomato cultivar Hezuo 906 by Agrobacterium tumefaciens-mediated **transformation**. Mol. anal. of 183 **transgenic plants** revealed that the dsRNA unit was integrated into the tomato genome. With respect to the construct with the 1,002-bp linker, the severity of phenotypes indicated that 72.3 of the **transformed plants** had non-RNA interference, about 18.1 had semi-RNA interference, and only 9.6 had full-RNA interference. However when the construct with the 7-nt linker was used for **transformation**, the results were 13.0, 18.0, and 69.0, resp., indicating that the short linker was more efficient in RNAi of **transgenic** tomato **plants**. When we applied this fast way of shutting down the ACC oxidase gene, **transgenic** tomato **plants** were produced that had fruit which released traces of ethylene and had a prolonged shelf life of more than 120 days. The RNA and protein analyses indicated that there was non-RNA interference, semi-RNA interference and full-RNA interference of ACC oxidase in the **transgenic** tomato **plants**.

=> d 9 so

L5 ANSWER 9 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Plant Cell Reports (2005), 23(9), 639-646
CODEN: PCRPD8; ISSN: 0721-7714

=> d 10 ab

L5 ANSWER 10 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB Agro-infiltration is an Agrobacterium-mediated transient gene expression system that is widely used to express foreign proteins in **plants**. Importantly, agro-infiltration has also become a key method to study **plant** RNA interference (RNAi). Although agro-infiltration has been successfully used to study many aspects of **plant** RNAi, it is particularly powerful in identifying proteins having RNAi inhibitor activity (RNAi suppressors). Protocols that deal with testing RNAi repressor activity of a candidate **silencing** suppressor gene in **plants** are presented. The protocols are illustrated using Nicotiana benthamiana GFP **transgenic plants** and Agrobacterium cultures carrying a GFP expression cassette or a candidate **silencing** suppressor. Protocols for measuring GFP mRNA and **siRNA** levels are also provided.

=> d 10 so

L5 ANSWER 10 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Gene Silencing by RNA Interference (2005), 357-364. Editor(s): Sohail, Muhammad. Publisher: CRC Press LLC, Boca Raton, Fla.
CODEN: 69GAK9; ISBN: 0-8493-2141-7

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L5 ANSWER 11 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI RNA interference: From gene **silencing** to gene-specific

therapeutics

L5 ANSWER 12 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Evidence that RNA **silencing**-mediated resistance to Beet necrotic yellow vein virus is less effective in roots than in leaves

L5 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Local infiltration of high- and low-molecular-weight RNA from **silenced** sunflower (Helianthus annuus L.) **plants** triggers post-transcriptional gene **silencing** in non-**silenced plants**

L5 ANSWER 14 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Transient RNA **silencing** of scoulerine 9-O-methyltransferase expression by double stranded RNA in Coptis japonica protoplasts

L5 ANSWER 15 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Increasing the carotenoid content of **plants** by inhibiting expression of the ε-cyclase gene by RNA interference

L5 ANSWER 16 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI **Silencing** expression of **plant** genes for DnaJ-like proteins to create **transgenic plants** with improved resistance to viral infection

L5 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Modulation of gene expression in **plants** via **siRNA** and miRNA pathway

L5 ANSWER 18 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Expression of **siRNA** driven by U6 or H1 promoter and uses in inhibiting tumor growth in breast tumor model

L5 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Inhibition of gene expression by delivery of specially selected double stranded or other forms of small interfering RNA precursors enabling the formation of small interfering RNA in vivo and in vitro

L5 ANSWER 20 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Altering flower color by altering levels of ketocarotenoids in petals by expression of a foreign ketolase gene

=> d 11 ab

L5 ANSWER 11 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB A review. In the past 4 years, RNA interference (RNAi) has become widely used as an exptl. tool to analyze the function of mammalian genes, both in vitro and in vivo. By harnessing an evolutionary conserved endogenous biol. pathway, 1st identified in **plants** and lower organisms, double-stranded RNA (dsRNA) reagents are used to bind to and promote the degradation of target RNAs, resulting in knockdown of the expression of specific genes. RNAi can be induced in mammalian cells by the introduction of synthetic double-stranded small interfering RNAs (siRNAs) 21-23 base pairs (bp) in length or by plasmid and viral vector systems that express double-stranded short hairpin RNAs (shRNAs) that are subsequently processed to siRNAs by the cellular machinery. RNAi was widely used in mammalian cells to define the functional roles of individual genes, particularly in disease. In addition, **siRNA** and shRNA libraries were developed to allow the systematic anal. of genes required for disease processes such as cancer using high throughput RNAi screens. RNAi was used for the knockdown of gene expression in exptl. animals, with the development of shRNA systems that allow tissue-specific and inducible knockdown of genes promising to provide a quicker and

cheaper way to generate **transgenic** animals than conventional approaches. Finally, because of the ability of RNAi to **silence** disease-associated genes in tissue culture and animal models, the development of RNAi-based reagents for clin. applications is gathering pace, as technol. enhancements that improve **siRNA** stability and delivery in vivo, while minimizing off-target and nonspecific effects, are developed.

=> d 11 so

L5 ANSWER 11 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Pharmacology & Therapeutics (2005), 107(2), 222-239
CODEN: PHTHDT; ISSN: 0163-7258

=> d 13 ab

L5 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB Using grafting procedures, we have characterized post-transcriptional gene **silencing** (PTGS) in **transgenic** sunflower expressing β-glucuronidase (GUS) activity. **Silencing** was observed as early as 2 wk after grafting of non-**silenced** scions on to **silenced** rootstock. Transmission of the systemic signal occurs solely from stock to scion, is independent of the physiol. age of the rootstock and is not heritable. Furthermore, we report, for the first time in **plants**, an easy and low-cost method of activating RNA **silencing** by infiltration of purified RNA from **silenced plants**. Local application of total RNA derived from **silenced** sunflower **plants** to leaves of non-**silenced plants** induces PTGS in newly developed leaves above the point of infiltration, as shown by reduced GUS activity and mRNA levels. **Silenced plants** contain 21-23-nucleotide RNAs hybridizing to transgene target sequences, in contrast with leaves of non-**silenced plants**. However, de novo production of GUS-specific short RNA in non-**silenced plants** can be activated by leaf infiltration of low-mol.-weight RNAs isolated from leaves of **silenced plants**. Significant levels were detected as early as 2 wk after infiltration, peaked at 3 wk and declined 5 wk after infiltration. Our results provide evidence that RNA infiltration in sunflower induces transient **silencing** and is not transmitted to offspring. This approach could be of major use in dissecting the mechanisms involved in PTGS.

=> d 13 so

L5 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Plant Biotechnology Journal (2005), 3(1), 81-89
CODEN: PBJLAE; ISSN: 1467-7644

=> d 16 ab

L5 ANSWER 16 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB The invention relates to **plants** and **plant** cells which have a transient or permanent virus resistance as a result of modulation of the gene expression and/or binding behavior of **plant** DnaJ-like proteins. The invention also relates to a method for the production of **transgenic plants** with increased virus resistance, wherein the expression of **plant** DnaJ-like proteins which interact with viral components is substantially prevented by **silencing** the expression of DnaJ-like protein genes. The invention further relates to a method for the production of **transgenic**

plants with increased virus resistance, wherein the interaction of viral components with **plant** DnaJ-like proteins is substantially prevented by expression of dominant-neg. mutants of the DnaJ-like proteins, by antibodies against DnaJ-like proteins, or by specific inhibitors. Thus, the cDNA and protein sequences of three DnaJ-like proteins from tobacco were identified. These proteins were named CPIP1, -2a, and -2b, for Capsid Protein-Interacting Protein, since they were shown to bind to the cap protein of potato virus Y by yeast two-hydrid assay. **Transgenic** tobacco **plants** in which CPIP1 gene expression was **silenced** with **siRNA** displayed a normal phenotype by a transient resistance to potato virus Y infection. Tobacco **plants** were also virus-resistant when they produced dominant-neg. mutants of CPIP1, i.e., CPIP1 proteins lacking a J region but still capable of binding the viral capsid protein.

=> d 16 pi

L5 ANSWER 16 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004009821	A1	20040129	WO 2003-EP7945	20030721
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2491705	AA	20040129	CA 2003-2491705	20030721
EP 1523561	A1	20050420	EP 2003-765074	20030721
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

=> d 17 ab

L5 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

AB Compns. and methods for modulating nucleotide sequence expression, particularly for modulating gene expression in **plants**, are provided. The compns. comprise precursor RNA constructs for the expression of an RNA precursor. The precursor RNA construct comprises a promoter that is expressed in a **plant** cell driving the expression of a precursor RNA having a microRNA. The miRNA is complementary or partially complementary to a portion of a target gene or nucleotide sequence and function to modulate expression of the target sequence or gene. In this manner, the RNA precursor construct can be designed to modulate expression of any nucleotide sequence of interest, either an endogenous **plant** gene or alternatively a transgene. The precursor RNA constructs may be used in combination with modulators to enhance the effect on gene expression. Expression of a modulator in the presence of the precursor RNA alters the accumulation of miRNAs and thus enhances the regulatory capabilities of miRNAs. The invention further comprises the use of a modulator to control gene expression via both **siRNA** and the miRNA pathway. **Transformed plants**, tissues, cells and seeds are also provided. The invention demonstrated that Hc-Pro (helper component-proteinase) differentially increased the accumulation of some miRNA in a tissue specific manner.

=> d 17 pi

L5 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004009779	A2	20040129	WO 2003-US22718	20030721
	WO 2004009779	A3	20040902		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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	US 2004268441	A1	20041230	US 2003-623930	20030721
	EP 1551967	A2	20050713	EP 2003-765827	20030721
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=> d 18 ab

L5 ANSWER 18 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

AB A kit is disclosed for gene functional studies which allows users to produce **siRNA** via **siRNA** expression cassettes, efficiently introduce the **siRNA** expression cassette into cultured mammalian cells, evaluate the transfection efficiency, and evaluate the **siRNA** synthetic efficiency. The kit includes a **siRNA** synthetic system, a transfection reagent(s), a PCR primer with a specific fluorescent dye tag for tracking down the **siRNA** delivery pathway and a reporter gene cassette such as GFP gene expression cassette, for easily selecting the cells that are successfully transfected with the **siRNA** in the whole cell pool. Human H1 and U6 genes (including the promoter region) were cloned and expression of **siRNA** was under control of the promoters. **SiRNA** targeting vascular endothelial growth factor (VEGF) gene was tested in mouse breast cancer model. When the **siRNA** cassette was injected into the pre-**planted** tumor, the tumor growth was significantly inhibited compared with gene carrier only control.

=> d 18 so

L5 ANSWER 18 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

SO U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO

=> d 18 pi

L5 ANSWER 18 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004181821	A1	20040916	US 2004-789590	20040227
	WO 2004083433	A1	20040930	WO 2004-US7037	20040308
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

=> d 19 ab

L5 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB The use of specially selected sequences from the target gene into designing double stranded or other forms of RNA (**siRNA** precursors or siRNAp) that enables small interfering RNA (**siRNA**) from this new invention is delivered for inhibition of cellular gene expression. Diseases may be prevented and treated by this process, e.g. severe acute respiratory syndrome (SARS) and human immunodeficiency virus (HIV) infections. The process may be practiced in vivo or in vitro. The small interfering RNA enabled is of sequences usually of 23 nucleotides or less. The invented method of sequence selection from the target gene, however, maybe applicable to double stranded RNA of any length.

=> d 19 so

L5 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW

=> d 19 pi

L5 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1482037	A1	20041201	EP 2004-253066	20040525
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
	CA 2468118	AA	20041130	CA 2004-2468118	20040520
	JP 2004357708	A2	20041224	JP 2004-160521	20040531

=> d 21-30 ti

L5 ANSWER 21 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 2
TI The preferred route for the degradation of **silencing** target RNAs in **transgenic plants** depends on pre-established **silencing** conditions

L5 ANSWER 22 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 3
TI Redundancy of the two dicer genes in transgene-induced posttranscriptional gene **silencing** in Neurospora crassa

L5 ANSWER 23 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Use of RNAi technology to confer enhanced resistance to BmNPV on **transgenic** silkworms

L5 ANSWER 24 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Viral virulence protein suppresses RNA **silencing**-mediated defense but upregulates the role of microRNA in host gene expression

L5 ANSWER 25 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN

TI Probing the microRNA and small interfering RNA pathways with virus-encoded suppressors of RNA **silencing**.

L5 ANSWER 26 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 4
TI Viral RNA **silencing** suppressors inhibit the microRNA pathway at an intermediate step

L5 ANSWER 27 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 5
TI Small interfering RNA (**siRNA**) targetted to Smad3 inhibits **transforming** growth factor-β signaling

L5 ANSWER 28 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Broad Spectrum Resistance to ssDNA Viruses Associated with Transgene-Induced Gene **Silencing** in Cassava

L5 ANSWER 29 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Simple RNAi vectors for stable and transient suppression of gene function in rice

L5 ANSWER 30 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Advances in study of RNA interference and its botanical significance

=> d 23 ab

L5 ANSWER 23 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB **SiRNA** is a powerful tool for gene-specific **silencing** in **plants** and animals. In this study, we examined the use of gene **silencing** in generating **transgenic** silkworms resistant to the Bombyx mori nucleopolyhedrovirus (BmNPV). Using a transposon piggyBac system, we first generated BmN cells (rBmN-lef1), which carried artificial genes designed for expressing siRNAs with sequences of the essential viral gene lef-1. NPV DNA microarray anal. revealed that the accumulation of lef-1 mRNA was successfully inhibited in rBmN-lef1 infected with BmNPV. The virus titer in the culture medium of rBmN-lef1 at 48 h post-infection (h.p.i.) was 50% of that of the control cells. Moderate BmNPV-resistance caused by transgenesis of the artificial **siRNA**-expressing gene was confirmed in the **transgenic** silkworms. Virus production was reduced in **transgenic** silkworms relative to controls up to 96 h after viral inoculation. Although complete protection was not achieved and the **transgenic** larvae ultimately died, this is the first report to show the use of RNA interference in confering enhanced viral resistance on **transgenic** animals.

=> d 23 so

L5 ANSWER 23 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Archives of Virology (2004), 149(10), 1931-1940
CODEN: ARVIDF; ISSN: 0304-8608

=> d 27 ab

L5 ANSWER 27 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 5
AB RNA interference has become a powerful tool for **silencing** of gene expression in mammals and **plants**. To determine the effect of Smad3 on **transforming** growth factor-β signaling, we constructed a small interfering RNA (**siRNA**) targeted to Smad3. This **siRNA** inhibited expression of the endogenous Smad3 leading to the prevention of nuclear localization of Smad3. Further, Smad3 **siRNA** prevented not only anti-proliferative activity of TGF-β1 but also TGF-β1-inducible promoter activity.

=> d 27 so

L5 ANSWER 27 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 5
SO Biotechnology Letters (2004), 26(9), 699-703
CODEN: BILED3; ISSN: 0141-5492

=> d 29 ab

L5 ANSWER 29 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB Since the recent sequencing of the rice genome, the functional identification of rice genes has become increasingly important. Various tagged lines have been generated; however, the number of tagged genes available is not sufficient for extensive study of gene function. To help identify the functions of genes in rice, we developed a Gateway vector, pANDA, for RNA interference of rice genes. This vector can be used for Agrobacterium **transformation** of rice and allows easy and fast construction of efficient RNAi vectors. In the construct, hairpin RNA derived from a given gene is transcribed from a strong maize ubiquitin promoter, and an intron is placed 5' upstream of inverted repeats to enhance RNA expression. Anal. of rice genes using this vector showed that suppression of mRNA expression was observed in more than 90% of **transgenic plants** examined, and short interfering RNA indicative of RNA **silencing** was detected in each **silenced plant**. A similar vector, pANDA-mini, was also developed for direct transfer into leaf cells or protoplasts. This vector can be used for transient suppression of gene function in rice. These vectors should help identify the functions of rice genes whose tagged mutants are not available at present and complement existing methods for functional genomics of rice.

=> d 29 so

L5 ANSWER 29 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Plant and Cell Physiology (2004), 45(4), 490-495
CODEN: PCPHA5; ISSN: 0032-0781

=> d 30 ab

L5 ANSWER 30 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB A review. RNA interference (RNAi) is the sequence-specific gene **silencing** induced by double-stranded RNA. Small RNA including **siRNA** and microRNA plays a key role in RNA interference. The mechanisms of **siRNA**-induced RNAi and microRNA-induced RNA **silencing** are described resp. This paper also reviews the present status of study on RNAi in **plants**, which includes recent research progress of RNAi in **transgenic plants** and RNAi induced by **plant** virus. A remark on its botanical significance is also made including study of functional genomics, **transgenic plants** and disease resistance in **plants**.

=> d 30 so

L5 ANSWER 30 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Fenzi Zhiwu Yuzhong (2004), 2(3), 429-435
CODEN: FZYEAO; ISSN: 1672-416X

=> d 31-40 ti

L5 ANSWER 31 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Cationic oligopeptide-mediated delivery of dsRNA for post-transcriptional gene **silencing** in **plant** cells

L5 ANSWER 32 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Transgene **silencing** in Phalaenopsis expressing the coat protein of Cymbidium Mosaic Virus is a manifestation of RNA-mediated resistance

L5 ANSWER 33 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI High frequency induction of RNA-mediated resistance against Cucumber mosaic virus using inverted repeat constructs

L5 ANSWER 34 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Generation of **transgenic** potato **plants** highly resistant to potato virus Y (PVY) through RNA **silencing**

L5 ANSWER 35 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI RNA **silencing** in **plants** by the expression of **siRNA** duplexes

L5 ANSWER 36 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN
TI Viroid-induced RNA **silencing** of GFP-viroid fusion transgenes does not induce extensive spreading of methylation or transitive **silencing**.

L5 ANSWER 37 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 6
TI Post-transcriptional gene **silencing** induced by short interfering RNAs in cultured **transgenic plant** cells

L5 ANSWER 38 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI RNA interference, arthropod-borne viruses, and mosquitoes

L5 ANSWER 39 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Progress on the post-transcriptional gene **silencing** mechanism and correspondent strategy in **transgenic plants**

L5 ANSWER 40 OF 65 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Sources of target specificity associated with the recovery against Pea seed-borne mosaic virus infection mediated by RNA **silencing** in pea.

=> d 35 ab

L5 ANSWER 35 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB In animal cells, stable RNA **silencing** can be achieved by vector-based small interfering RNA (**siRNA**) expression system, in which Pol III RNA gene promoters are used to drive the expression of short hairpin RNA, however, this has not been demonstrated in **plants**. Whether Pol III RNA gene promoter is capable of driving **siRNA** expression in **plants** is unknown. Here, we report that RNA **silencing** was achieved in **plants** through stable expression of short hairpin RNA, which was driven by Pol III RNA gene promoters. Using glucuronidase (GUS) **transformed** tobacco as a model system, the results demonstrated that 21 nt RNA duplexes, targeting at different sites of GUS gene, were stably expressed under the control of either human H1 or Arabidopsis 7SL RNA gene promoter, and GUS gene was **silenced** in 80% of **siRNA** transgenics. The severity of

silencing was correlated with the abundance of **siRNA** expression but independent of the target sites and uridine residue structures in **siRNA** hairpin transcripts. Thus, the specific expression of **siRNA** provides a new system for the study of **siRNA silencing** pathways and functional genomics in **plants**. Moreover, the effectiveness of the human H1 promoter in a **plant** background suggested a conserved mechanism underlying Pol III complex functionality.

=> d 35 so

L5 ANSWER 35 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Nucleic Acids Research (2004), 32(21), e171/1-e171/7
CODEN: NARHAD; ISSN: 0305-1048

=> d 37 ab

L5 ANSWER 37 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 6
AB Short interfering RNA (**siRNA**) is widely used for studying post-transcriptional gene **silencing** and holds great promise as a tool for both identifying function of novel genes and validating drug targets. Two **siRNA** fragments (**siRNA**-a and -b), which were designed against different specific areas of coding region of the same target green fluorescent protein (GFP) gene, were used to **silence** GFP expression in cultured gfp **transgenic** cells of rice (Oryza sativa L.; OS), cotton (Gossypium hirsutum L.; GH), Fraser fir [Abies fraseri (Pursh) Poir; AF], and Virginia pine (Pinus virginiana Mill.; PV). Differential gene **silencing** was observed in the bombarded **transgenic** cells between two siRNAs, and these results were consistent with the inactivation of GFP confirmed by laser scanning microscopy, Northern blot, and **siRNA** anal. in tested **transgenic** cell cultures. These data suggest that **siRNA** -mediated gene inactivation can be the **siRNA** specific in different **plant** species. These results indicate that **siRNA** is a highly specific tool for targeted gene knockdown and for establishing **siRNA**-mediated gene **silencing**, which could be a reliable approach for large-scale screening of gene function and drug target validation.

=> d 37 so

L5 ANSWER 37 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 6
SO Genomics, Proteomics & Bioinformatics (2004), 2(2), 97-108
CODEN: GPBEBL; ISSN: 1672-0229

=> d 38 ab

L5 ANSWER 38 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB A review. RNA interference (RNAi) probably functions as an antiviral mechanism in most eukaryotic organisms. Variations in the activity of this antiviral pathway in mosquitoes could explain, in part, why some mosquitoes are competent vectors of medically important, arthropod-borne viruses (arboviruses) and others are not. There are three lines of evidence that show the RNAi pathway exists in Aedes species that transmit arboviruses. The first is that recombinant Sindbis viruses expressing an RNA fragment from a genetically unrelated dengue-2 virus (DENV-2) interfere with DENV-2 replication in Aedes aegypti mosquitoes by a mechanism similar to virus-induced gene **silencing** described in **plants**. The second is that transfection of C6/36 (Aedes albopictus) cells with either double-stranded RNA or synthetic small

interfering RNAs derived from an arbovirus genome interferes with replication of the homologous virus. The third is that a hairpin DENV-2-specific RNA transcribed from a plasmid can generate virus-resistant C6/36 cells. We hypothesize that genetically modified mosquitoes can be generated that transcribe a flavivirus-specific dsRNA, triggering the RNAi response soon after ingestion of a blood meal. This could induce the RNAi pathway in the midgut prior to establishment of virus infection and profoundly change vector competence. Towards this goal, we are developing **transgenic** A. aegypti lines that are refractory to DENV by exploiting the RNAi pathway.

=> d 38 so

L5 ANSWER 38 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Virus Research (2004), 102(1), 65-74
CODEN: VIREDF; ISSN: 0168-1702

=> d 39 ab

L5 ANSWER 39 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB A review. Post-transcriptional gene **silencing** (PTGS) is characterized by the phenomenon that the mRNA can be generated, but will be degraded instantly by a special system or inhibited in subsequent translation. It is often induced by some foreign gene, such as transgene, virus, transposon, or caused by some endo-special non-coded sequences. The degrading system involves the **siRNA** or miRNA, some enzyme and target mRNA, and the degrading orientation is 5'-3'. PTGS can spread to all the **plant** body through the signals. In this text, **transgenic plant**-PTGS scheme, which includes triggering, mRNA degrading or inhibition, and signal spreading, will be summarized; and the strategy for overcoming gene **silencing** is also concerned, focusing on some available DNA elements, such as gene **silencing** suppressor of virus, MAR, MOM, which can be used to devising of **transgenic** vector.

=> d 39 so

L5 ANSWER 39 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Zhongguo Shengwu Gongcheng Zazhi (2004), 24(6), 43-47
CODEN: ZSGZAW; ISSN: 1671-8135

=> d 41-50 ti

L5 ANSWER 41 OF 65 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI The role of viroids in gene **silencing**: the model case of Peach latent mosaic viroid.

L5 ANSWER 42 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN
TI RNA **silencing** in **plants** by the expression of **siRNA** duplexes \h [electronic resource].

L5 ANSWER 43 OF 65 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI RNA **silencing** in **plants** by the expression of **siRNA** duplexes.

L5 ANSWER 44 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Methods and gene constructs for gene **silencing** using potato spindle tuber viroid (PSTVd) siRNAs in **transgenic plants**

L5 ANSWER 45 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 7
TI Tomato mosaic virus replication protein suppresses virus-targeted posttranscriptional gene **silencing**

L5 ANSWER 46 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 8
TI Evidence for nuclear processing of **plant** micro RNA and short interfering RNA precursors

L5 ANSWER 47 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 9
TI Cucumber mosaic virus infection transiently breaks dsRNA-induced **transgenic** immunity to Potato virus Y in tobacco

L5 ANSWER 48 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 10
TI Low temperature inhibits RNA **silencing**-mediated defence by the control of **siRNA** generation.

L5 ANSWER 49 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Expression of **siRNA** from a pol III promoter in mammalian cells

L5 ANSWER 50 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI RNA interference and its role in the regulation of eucaryotic gene expression

=> d 44 ab

L5 ANSWER 44 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB Described are means and methods that generally enable the specific inactivation of genes. Transgenes comprising any gene sequence, cDNA sequence or a part of them are linked to cDNA subfragments having a size of >30 bp of a viroid, here preferably potato spindle tuber viroid (PSTVd). Insertion of such constructs into expression cassettes comprising regulatory elements allow expression of the transgenes upon introduction of the constructs into **plant** cells. Subsequent infection of the **transformed plant** or **plant** cells with the corresponding viroid, here preferably PSTVd, results in suppression of only the transgene expression and transcribed genes that share homol. with the transgene and/or the viroid sequence. Thus, the present method enables specific gene inactivation at any desired time. Examples of reporter gene inactivation are included that demonstrate the working order of the present invention.

=> d 44 so

L5 ANSWER 44 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW

=> d 44 pi

L5 ANSWER 44 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1285966	A1	20030226	EP 2001-119348	20010810

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

=> d 49 ab

L5 ANSWER 49 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB BACKGROUND RNA interference (RNAi) refers to the sequence-specific **silencing** of gene expression induced by double-stranded RNA (dsRNA), and it has been demonstrated in various organisms, including **plants**, a nematode, Drosophila, and a protozoan. In mammalian cells, it has recently been reported that 21- or 22-nucleotide RNAs with 2-nucleotide 3' overhangs [small interfering RNA (**siRNA**)] induce RNAi without the induction of the dsRNA-dependent inhibition of protein synthesis, which is known as the host defense system against viral infections. However, the introduction of **siRNA** into cells by lipofection appears to restrict the range of applications because of low transfection efficiencies in some types of cell and/or short-term persistence of **silencing** effects. Here we report a vector-based **siRNA** system for the expression of siRNAs that has the potential to induce RNAi in mammalian cells. TECHNIQUES We introduced the promoter of a human gene for U6 small nuclear RNA (snRNA) for the transcription of both strands of **siRNA** in vivo. This expression system is suitable for the transcription of small RNAs. Moreover, remarkably high levels of transcripts were observed when both strands were transcribed in the same cell. Because RNAs transcribed from a U6 promoter include a stretch of approx. four uridines at the 3'-end, the transcribed siRNAs have an approx. 4-nucleotide overhang at each 3'-end, with the same activity as endogenous siRNAs with 2- or 3-nucleotide overhangs at the 3'-end. RESULTS To generate siRNAs in vivo, we designed an **siRNA** expression vector, in which the transcription of sense and antisense RNAs was driven independently by U6 promoters. Using a dual-luciferase reporter system, we demonstrated that this construct can efficiently suppress the expression of specific genes. Moreover, to demonstrate the power of the **siRNA** expression vector in suppressing the expression of endogenous genes, we constructed **siRNA** expression vectors targeted to transcripts of the gene for β-catenin, a protein involved in cadherin-mediated intercellular adhesion. The β-catenin-targeting **siRNA** was expressed from a plasmid that contained the origin of DNA replication of the Epstein-Barr virus (Ori-P), which is maintained stably and extrachromosomally in cells that express the Epstein-Barr virus nuclear antigen 1 (EBNA-1). **Transformants** with an **siRNA** expression plasmid targeted to β-catenin exhibited specific reduction in the expression of β-catenin. CONCLUSION We successfully engineered an **siRNA** expression vector with the ability to repress the expression of specific genes. Utilizing an EBNA-1/Ori-P system, we created **transformants** in which the expression of β-catenin was repressed. Thus, our **siRNA** expression system should be useful for "knockdown" by the RNAi of endogenous genes and has the potential to suppress gene expression through the generation of stable **transformants**. This tech. advance in the **silencing** of gene expression should not only facilitate a wide range of functional analyses of mammalian genes but also might allow therapeutic applications by means of vector-mediated RNAi.

=> d 498 so
65 ANSWERS ARE AVAILABLE. SPECIFIED ANSWER NUMBER EXCEEDS ANSWER SET SIZE
The answer numbers requested are not in the answer set.
ENTER ANSWER NUMBER OR RANGE (1):49

L5 ANSWER 49 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Perspectives in Gene Expression (2003), 361-375,A35, 1 plate. Editor(s): Appasani, Krishnarao. Publisher: Eaton Publishing Co., Westborough, Mass. CODEN: 69FDMF; ISBN: 1-881299-16-3

=> d 50 ab

L5 ANSWER 50 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB A review. Several years ago it was discovered that **plant transformation** with a transcribed sense transgene could shut down the expression of a homologous endogenous gene. Moreover, it was shown that the introduction into the cell of dsRNA (double-stranded RNA) containing nucleotide sequence complementary to an mRNA sequence causes selective degradation of the latter and thus **silencing** of a specific gene. This phenomenon, called RNA interference (RNAi) was demonstrated to be present in almost all eukaryotic organisms. RNAi is also capable of **silencing** transposons in germ line cells and fighting RNA virus infection. Enzymes involved in this process exhibit high homol. across species. Some of these enzymes are involved in other cellular processes, for instance developmental timing, suggesting strong interconnections between RNAi and other metabolic pathways. RNAi is probably an ancient mechanism that evolved to protect eukaryotic cells against invasive forms of nucleic acids.

=> d 50 so

L5 ANSWER 50 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Acta Biochimica Polonica (2003), 50(1), 217-229
CODEN: ABPLAF; ISSN: 0001-527X

=> d 51-60 ti

L5 ANSWER 51 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Transient expression of homologous hairpin RNA causes interference with **plant** virus infection and is overcome by a virus encoded suppressor of gene **silencing**

L5 ANSWER 52 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 11
TI The capacity of **transgenic** tobacco to send a systemic RNA **silencing** signal depends on the nature of the inducing transgene locus.

L5 ANSWER 53 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI A simple and rapid method to detect **plant** siRNAs using nonradioactive probes

L5 ANSWER 54 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Expression of self-complementary hairpin RNA under the control of the rolC promoter confers systemic disease resistance to plum pox virus without preventing local infection

L5 ANSWER 55 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Large-scale simultaneous methods for identifying genes that are upstream regulators of other genes of interest

L5 ANSWER 56 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 12
TI A viral suppressor of RNA **silencing** differentially regulates the accumulation of short interfering RNAs and micro-RNAs in tobacco.

L5 ANSWER 57 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI RNA **silencing** of dengue virus type 2 replication in **transformed** C6/36 mosquito cells transcribing an inverted-repeat RNA derived from the virus genome

L5 ANSWER 58 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 13
TI High molecular weight RNAs and small interfering RNAs induce systemic posttranscriptional gene **silencing** in **plants**.

L5 ANSWER 59 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Two classes of short interfering RNA in RNA **silencing**

L5 ANSWER 60 OF 65 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Induction of RNA interference in Caenorhabditis elegans by RNAs derived from **plants** exhibiting post-transcriptional gene **silencing**.

=> d 58 ab

L5 ANSWER 58 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 13
AB Posttranscriptional gene **silencing** (PTGS) in **transgenic plants** is an epigenetic form of RNA degradation related to PTGS and RNA interference (RNAi) in fungi and animals. Evidence suggests that transgene loci and RNA viruses can generate double-stranded RNAs similar in sequence to the transcribed region of target genes, which then undergo endonucleolytic cleavage to generate small interfering RNAs (**siRNA**) that promote degradation of cognate RNAs. The silent state in **transgenic plants** and in Caenorhabditis elegans can spread systemically, implying that mobile **silencing** signals exist. Neither the chemical nature of these signals nor their exact source in the PTGS pathway is known. Here, we use a positive marker system and real-time monitoring of green fluorescent protein expression to show that large sense, antisense, and double-stranded RNAs as well as double-stranded siRNAs delivered biolistically into **plant** cells trigger **silencing** capable of spreading locally and systemically. Systemically **silenced** leaves show greatly reduced levels of target RNA and accumulate siRNAs, confirming that RNA can induce systemic PTGS. The induced siRNAs represent parts of the target RNA that are outside of the region of homology with the triggering **siRNA**. Our results imply that siRNAs themselves or intermediates induced by siRNAs could comprise **silencing** signals and that these signals induce self-amplifying production of siRNAs.

=> d 58 so

L5 ANSWER 58 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 13
SO Proceedings of the National Academy of Sciences of the United States of America, Sept 3, 2002. Vol. 99, No. 18. p. 11981-11986
Publisher: Washington, D.C. : National Academy of Sciences,
CODEN: PNASA6; ISSN: 0027-8424

=> d 59 ab

L5 ANSWER 59 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB RNA **silencing** is a eukaryotic genome defense system that involves processing of double-stranded RNA (dsRNA) into 21-26 nt, short interfering RNA (**siRNA**). The **siRNA** mediates suppression of genes corresponding to the dsRNA through targeted RNA degradation In some **plant** systems there are addnl. **silencing** processes, involving systemic spread of **silencing** and RNA-directed methylation/transcriptional suppression of homologous genomic DNA. The authors show here that siRNAs produced in **plants** from a green fluorescent protein (GFP) transgene are in short (21-22 nt) and long (24-26 nt) size classes, whereas those from endogenous retroelements are only in the long class. Viral suppressors of RNA **silencing** and mutations in Arabidopsis indicate that these classes of **siRNA** have different roles. The long **siRNA** is dispensable for sequence-specific mRNA degradation, but correlates with systemic **silencing** and methylation of homologous DNA. Conversely, the short **siRNA** class correlates with mRNA degradation but not with systemic signalling or methylation. These findings reveal an unexpected level of complexity in the RNA **silencing** pathway in **plants** that may also apply in animals.

=> d 59 so

L5 ANSWER 59 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO EMBO Journal (2002), 21(17), 4671-4679.
CODEN: EMJODG; ISSN: 0261-4189

=> d 60 ab

L5 ANSWER 60 OF 65 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
AB The term 'gene **silencing**' refers to transcriptional and post-transcriptional control of gene expression. Related processes are found across kingdoms in **plants** and animals. We intended to test whether particular RNA constituents of a **silenced plant** can induce **silencing** in an animal. We generated Nicotiana benthamiana lines that expressed green fluorescent protein (GFP) from a transgene. **Plants** in which GFP expression was spontaneously **silenced** showed siRNAs characteristic of post-transcriptional gene **silencing** (PTGS). RNA extracts prepared from **silenced plants** were injected into a GFP-expressing strain of Caenorhabditis elegans, where they induced RNA interference (RNAi). Extracts from non-**silenced plants** were inactive. This directly demonstrates a relationship and a mechanistic link between PTGS and RNAi. Controls confirmed that the **silencing** agent was an RNA. Size fractionation on denaturing gels revealed that an RNA of apprx85 nt was most active in inducing **silencing** in the worm. Northern blot analysis of the region in question did not detect a prominent GFP-specific RNA of sense or antisense polarity, indicating that the RNA species which induced **silencing** was present only in low concentration or did not hybridize due to formation of an intra-molecular double strand. In view of its high activity, it is possible that this agent is responsible for the systemic spread of **silencing** in **plants** and it might represent the aberrant RNA, a previously postulated inducer of **silencing**.

=> d 60 so

L5 ANSWER 60 OF 65 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on

STN
SO Nucleic Acids Research, (April 1, 2002) Vol. 30, No. 7, pp. 1688-1694. print.
CODEN: NARHAD. ISSN: 0305-1048.

=> d 61-65 ti

L5 ANSWER 61 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI In the complex family of heat stress transcription factors, HsfA1 has a unique role as master regulator of thermotolerance in tomato

L5 ANSWER 62 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 14
TI Generation of siRNAs by T-DNA sequences does not require active transcription or homology to sequences in the **plant**.

L5 ANSWER 63 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Expression of small interfering RNAs targeted against HIV-1 rev transcripts in human cells

L5 ANSWER 64 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI The long and short of siRNAs

L5 ANSWER 65 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Development and application of **siRNA** expression vector

=> d 61-65 ti

L5 ANSWER 61 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI In the complex family of heat stress transcription factors, HsfA1 has a unique role as master regulator of thermotolerance in tomato

L5 ANSWER 62 OF 65 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 14
TI Generation of siRNAs by T-DNA sequences does not require active transcription or homology to sequences in the **plant**.

L5 ANSWER 63 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Expression of small interfering RNAs targeted against HIV-1 rev transcripts in human cells

L5 ANSWER 64 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI The long and short of siRNAs

L5 ANSWER 65 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
TI Development and application of **siRNA** expression vector

=> d 63 ab

L5 ANSWER 63 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB RNA interference (RNAi) is the process of sequence-specific, posttranscriptional gene **silencing** in animals and **plants** initiated by double-stranded (ds) RNA that is homologous to the **silenced** gene. This technol. has usually involved injection or transfection of dsRNA in model nonvertebrate organisms. The longer dsRNAs are processed into short (1925 nucleotides) small interfering RNAs (siRNAs) by a ribonucleotide protein complex that includes an RNAse III

related nuclease (Dicer), a helicase family member, and possibly a kinase and an RNA-dependent RNA polymerase (RdRP). In mammalian cells it is known that dsRNA 30 base pairs or longer can trigger interferon responses that are intrinsically sequence-nonspecific, thus limiting the application of RNAi as an exptl. and therapeutic agent. Duplexes of 21-nucleotide siRNAs with short 3' overhangs, however, can mediate RNAi in a sequence-specific manner in cultured mammalian cells. One limitation in the use of **siRNA** as a therapeutic reagent in vertebrate cells is that short, highly defined RNAs need to be delivered to target cells - a feat thus far only accomplished by the use of synthetic, duplex RNAs delivered exogenously to cells. In this report, the authors describe a mammalian Pol III promoter system capable of expressing functional double-stranded siRNAs following transfection into human cells. In the case of the 293 cells cotransfected with the HIV-1 pNL4-3 proviral DNA and the **siRNA**-producing constructs, the authors were able to achieve ≤4 logs of inhibition of expression from the HIV-1 DNA.

=> d 63 so

L5 ANSWER 63 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Nature Biotechnology (2002), 20(5), 500-505
CODEN: NABIF9; ISSN: 1087-0156

=> d 64 ab

L5 ANSWER 64 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB A review. A recent work identifies a distinct class of siRNAs derived from transgenes and endogenous retroelements in **plants**. This class has slower electrophoretic mobility than previously characterized siRNAs and may play an important role in transgene-induced systemic **silencing** and in methylation of endogenous retroelement DNA.

=> d 64 so

L5 ANSWER 64 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Molecular Cell (2002), 10(3), 435-437
CODEN: MOCEFL; ISSN: 1097-2765

=> d 65 ab

L5 ANSWER 65 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
AB RNA interference (RNAi) is a sequence-specific **silencing** phenomenon, which is induced by double-stranded RNA (dsRNA) and mediated through an evolutionarily conserved mechanism from **plants** to mammals. In mammalian cells, it has recently been reported that 21- or 22-nucleotide (nt) RNAs with 2-nt 3' overhangs (**siRNA**) induce RNAi without induction of the dsRNA-dependent inhibition of protein synthesis, known as the host defense system against viral infections. Moreover, we and other have developed **siRNA** expression systems utilizing a pol III promoter. Here we report a comparative anal. among various **siRNA** expression vectors and also demonstrate a regulatable RNAi in cells by using a tetracycline-controlled U6 promoter.

=> d 65 so

L5 ANSWER 65 OF 65 CAPLUS COPYRIGHT 2005 ACS on STN
SO Nucleic Acids Research Supplement (2002), 2(Twenty-ninth Symposium on Nucleic Acids Chemistry), 113-114
CODEN: NARSCE

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=> dis his

     (FILE 'HOME' ENTERED AT 12:31:00 ON 15 OCT 2005)

     FILE 'AGRICOLA, CAPLUS, BIOSIS' ENTERED AT 12:31:06 ON 15 OCT 2005
L1          6027 S SIRNA OR SHORT RNA MOLECULE
L2          2217 S L1 AND SILENC?
L3           302 S L2 AND (TRANSFORM? OR TRANSGENIC)
L4            85 S L3 AND PLANT?
L5            65 DUP REM L4 (20 DUPLICATES REMOVED)

=> s short antisense rna molecule? or short anti-sense rna molecule?
L6             1 SHORT ANTISENSE RNA MOLECULE? OR SHORT ANTI-SENSE RNA MOLECULE?

=> d ti

L6   ANSWER 1 OF 1  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
TI   Adeno-associated viral vectors for the delivery of antisense RNA.


=> d ab

L6   ANSWER 1 OF 1  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
AB   The use of antisense RNA for the inhibition gene expression and viral
     pathogenesis appears promising for gene therapeutic use.  We have designed
     a family of transducing viral vectors, based upon the noncytopathic
     adeno-associated virus (AAV), that encode antisense RNA targeting critical
     early events in the replicative cycle of targeted viruses, including human
     immunodeficiency virus-1 (HIV-1) and herpes simplex virus-1 (HSV-1).  AAV
     vectors efficiently transduce cells of different types and integrate into
     chromosomal DNA in a stable fashion.  Genes inserted into AAV vectors may
     be precisely designed to direct the transcription of short
     antisense RNA molecules since there is no
     transcriptional interference from the base vector.  Cells expressing
     AAV-encoded antisense RNA show aa significant reduction in the production
     of the cognate virus.  Thus, AAV vectors may become powerful analytic and
     therapeutic tools for the stable introduction of transgenes including
     antisense genes into cells.


=> d so

L6   ANSWER 1 OF 1  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
SO   Methods (Orlando), (1993) Vol. 5, No. 1, pp. 51-59.
     CODEN: MTHDE9. ISSN: 1046-2023.


=> d short sense rna molecule?
'SHORT' IS NOT A VALID FORMAT FOR FILE 'BIOSIS'
'SENSE' IS NOT A VALID FORMAT FOR FILE 'BIOSIS'
'RNA' IS NOT A VALID FORMAT FOR FILE 'BIOSIS'
'MOLECULE?' IS NOT A VALID FORMAT FOR FILE 'BIOSIS'

The following are valid formats:

The default display format is BIB.

ABS --------- AB
ALL --------- AN, DN, TI, AU, CS, PI, SO, DT, FS, LA, OS, ED, AB,
              NCL, CC, IT (CT, ST), GT, ORGN, RN, CN, GEN
BIB --------- AN, DN, TI, AU, CS, PI, SO, DT, FS, LA, OS, ED
CBIB -------- AN, compressed bibliographic information
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DALL -------- ALL, delimited for post-processing
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IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IIND -------- IND, indented with text labels
IND --------- NCL, CC, IT (CT, ST), GT, ORGN, RN, CN, GEN
HIT --------- all fields containing hit search terms
HITIND ------ IND
KWIC -------- Hit terms plus 20 words on either side
OCC --------- number of occurrences of hit terms and fields
              in which they occur

Hit terms will be highlighted in all available fields except MY and
PY.

To display a particular field or fields,  enter the display field
codes.  For a list of display field codes, enter 'HELP DFIELDS'
at an arrow prompt (=>).  Examples of formats include: 'BIB';
'AB'; 'SO'.  You may specify the format fields in any order,
and the information will be displayed in the same order as the
format specification.

The same formats (except for HIT, HITIND, KWIC, and OCC) may be
used with the DISPLAY ACC command to display the record for a
specified Accession Number.
ENTER DISPLAY FORMAT (BIB):ti

L6   ANSWER 1 OF 1  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
TI   Adeno-associated viral vectors for the delivery of antisense RNA.


=> s short sense rna molecule?
L7            0 SHORT SENSE RNA MOLECULE?

=> s ((baulcombe d?) or (baulcombe, d?))/au
L8          464 ((BAULCOMBE D?) OR (BAULCOMBE, D?))/AU

=> s l8 and l2
L9            7 L8 AND L2

=> dup rem l9
PROCESSING COMPLETED FOR L9
L10           6 DUP REM L9 (1 DUPLICATE REMOVED)

=> d 1-6 ti

L10 .ANSWER 1 OF 6  CAPLUS  COPYRIGHT 2005 ACS on STN
TI   Arabidopsis ARGONAUTE1 is an RNA slicer that selectively recruits
     microRNAs and short interfering RNAs

L10  ANSWER 2 OF 6  CAPLUS  COPYRIGHT 2005 ACS on STN
TI   An RNA-dependent RNA polymerase prevents meristem invasion by potato virus
     X and is required for the activity but not the production of a systemic
     silencing signal

L10  ANSWER 3 OF 6  CAPLUS  COPYRIGHT 2005 ACS on STN
TI   SiRNA - the "dark matter" of genetics

L10  ANSWER 4 OF 6  CAPLUS  COPYRIGHT 2005 ACS on STN
TI   Crystal structure of p19 - A universal suppressor of RNA silencing

L10  ANSWER 5 OF 6  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
TI   RNA silencing in Arabidopsis.
```

L10 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 1
TI Two classes of short interfering RNA in RNA **silencing**

=> d 3 ab

L10 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
AB A review discusses the underlying mechanism or the biol. significance of gene **silencing** by short interfering RNAs. Potential applications of RNA-**silencing** are the modification of plant growth and development and the induction of disease or pest resistance in crop plants. Moreover, virus-induced gene **silencing** can be used in high-throughput functional genomics to identify gene function. Inhibitors of the **silencing** pathway can be used to achieve high level transgene expression in plants.

=> d 3 so

L10 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
SO Pflanzenschutz-Nachrichten Bayer (German Edition) (2005), 58(1), 21-33
CODEN: PNBYAT; ISSN: 0340-1723

=> d 5 ab

L10 ANSWER 5 OF 6 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

=> d 5 so

L10 ANSWER 5 OF 6 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
SO Biochemical Society Transactions, (August 2004) Vol. 32, No. Part 4, pp. 30A. print.
Meeting Info.: BioScience2004: From Molecules to Organisms. Glasgow, UK. July 18-22, 2004. The Biochemical Society.
CODEN: BCSTB5. ISSN: 0300-5127.

=> d 6 ab

L10 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 1
AB RNA **silencing** is a eukaryotic genome defense system that involves processing of double-stranded RNA (dsRNA) into 21-26 nt, short interfering RNA (**siRNA**). The **siRNA** mediates suppression of genes corresponding to the dsRNA through targeted RNA degradation In some plant systems there are addnl. **silencing** processes, involving systemic spread of **silencing** and RNA-directed methylation/transcriptional suppression of homologous genomic DNA. The authors show here that siRNAs produced in plants from a green fluorescent protein (GFP) transgene are in short (21-22 nt) and long (24-26 nt) size classes, whereas those from endogenous retroelements are only in the long class. Viral suppressors of RNA **silencing** and mutations in Arabidopsis indicate that these classes of **siRNA** have different roles. The long **siRNA** is dispensable for sequence-specific mRNA degradation, but correlates with systemic **silencing** and methylation of homologous DNA. Conversely, the short **siRNA** class correlates with mRNA degradation but not with systemic signalling or methylation. These findings reveal an unexpected level of complexity in the RNA **silencing** pathway in plants that may also apply in animals.

=> d 6 so

L10 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 1
SO EMBO Journal (2002), 21(17), 4671-4679
CODEN: EMJODG; ISSN: 0261-4189

=> s ((hamilton a?) or (hamilton, a?))/au
L11 2051 ((HAMILTON A?) OR (HAMILTON, A?))/AU

=> s l11 and l2
L12 2 L11 AND L2

=> dup rem l12
PROCESSING COMPLETED FOR L12
L13 1 DUP REM L12 (1 DUPLICATE REMOVED)

=> d ti

L13 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 1
TI Two classes of short interfering RNA in RNA **silencing**